

# Increasing Medicaid Child Health Screenings: The Effectiveness of Mailed Pamphlets, Phone Calls, and Home Visits

## ABSTRACT

**Objectives.** A randomized controlled trial was conducted to test the effectiveness and cost-effectiveness of three outreach interventions to promote well-child screening for children on Medicaid.

**Methods.** In rural North Carolina, a random sample of 2053 families with children due or overdue for screening was stratified according to the presence of a home phone. Families were randomly assigned to receive a mailed pamphlet and letter, a phone call, or a home visit outreach intervention, or the usual (control) method of informing at Medicaid intake.

**Results.** All interventions produced more screenings than the control method, but increases were significant only for families with phones. Among families with phones, a home visit was the most effective intervention but a phone call was the most cost-effective. However, absolute rates of effectiveness were low, and incremental costs per effect were high.

**Conclusions.** Pamphlets, phone calls, and home visits by nurses were minimally effective for increasing well-child screenings. Alternate outreach methods are needed, especially for families without phones. (*Am J Public Health.* 1995;85:1412-1417)

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## Introduction

The Early and Periodic Screening, Diagnosis and Treatment program is intended to provide comprehensive primary care and all medically necessary specialty care<sup>1</sup> to more than 21 million children from birth to age 21 who are eligible for Medicaid.<sup>2</sup> Studies have noted that participation in the program can improve immunization status and uncover previously undetected health problems.<sup>3-9</sup> Early studies also suggest that participation may reduce health care costs.<sup>6,10</sup> Despite these benefits, however, the program has been underused since its implementation in the 1970s. In most states, fewer than half of eligible children receive Medicaid health screenings; in four states, fewer than 20% receive such screenings.<sup>2</sup> Concerns about the unrealized benefits of the program led Congress in 1989 to mandate that states take action to increase its use. The Health Care Financing Administration<sup>1</sup> subsequently set a goal for states to provide Medicaid health screenings to 80% of eligible children by 1995.

In response, states initiated numerous strategies to increase the number of children obtaining Medicaid health screenings; these strategies included posters, billboards, mass media campaigns, 1-800 hotlines, pamphlets, phone calls, home visits, computerized tracking systems, and case management. For the most part, these efforts have not been evaluated quantitatively. Consequently, program administrators have little data upon which to base their decisions for allocating resources to promote Medicaid health screening.

We report on a randomized controlled trial to evaluate three enhanced outreach interventions to increase the use

of the Early and Periodic Screening, Diagnosis and Treatment program: (1) a mailed pamphlet and letter from a nurse, (2) a phone call from a nurse, and (3) a home visit by a nurse. Each intervention was compared with the usual (control) method of informing parents at Medicaid intake.

The Predisposing, Reinforcing and Enabling Causes in Educational Diagnosis and Planning (PRECEDE) model<sup>11</sup> for planning health education programs guided selected aspects of this study. The model, which incorporates concepts from the Health Belief Model,<sup>11</sup> posits that to change health behavior—in this case, to cause parents to obtain Medicaid health screenings for their children—interventions must (1) build on features of the target population that *predispose* these parents to obtain screenings, and work around features that predispose them not to obtain screenings; (2) enhance factors that *enable* them to obtain screenings and minimize factors that deter them from obtaining screenings; and (3) *reinforce* the likelihood that they will continue to obtain screenings.<sup>12</sup> The interventions incorporated predisposing factors by describing verbally and/or visually the Early and Periodic Screening, Diagnosis and Treatment program and its benefits for the target population. They also incorpo-

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rated enabling factors by emphasizing that the program is free and that assistance is available for making appointments and getting transportation to and from the screenings. Before the interventions were implemented, community-level enabling and reinforcing factors also were enhanced by informing primary care providers about the program and seeking their support in providing screenings.<sup>13</sup>

The study received Institutional Review Board approval from the participating agencies to ensure the protection of its subjects.

## Methods

The interventions were tested from September 1990 through August 1992 in six medically underserved counties in northern, central, and southern North Carolina. Purposive sampling was used to select counties, based on five inclusion criteria: (1) over half the population resided in the county's rural areas (population <2500), (2) under 35% of all eligible children in the county obtained Medicaid health screenings in a 1-year period, (3) driving time from the university research office was under 3 hours, (4) there were no major local efforts to increase Medicaid health screening, and (5) local officials wanted to collaborate in the study. All six selected counties had shortages of primary care providers, and the local public health clinics and social services offices suffered from chronic understaffing; such shortages are typical of other rural counties eligible for inclusion in this study. One study county was widely known as the most underserved in the state.

Targeted families were those in which at least one child (under age 21) on Medicaid was due or overdue for well-child screening, based on Medicaid claims for screenings for the 2 years prior to the study. Although use of the Early and Periodic Screening, Diagnosis and Treatment program is appropriate for all children, this study focused on well children. Children with disabilities were excluded.

Sampling frames were obtained by merging state Medicaid eligibility and claims files. Every 3 months over the 24-month intervention period, families meeting the study criteria were listed, excluding families previously chosen. County departments of social services supplied phone numbers for clients with home phones. Overall, 59% of the sampling frame, or 44% to 68% across

counties, had home phones. This information was used to stratify the lists according to whether there was a phone in the home.

In each stratum in each county, random samples were selected proportional to the number of children on Medicaid who had not received health screenings. Families with phones were randomly assigned to receive control, pamphlet/letter, phone call, or home visit interventions; families without phones were randomly assigned to receive control, pamphlet/letter, or home visit interventions. A priori calculations showed that 330 families per study group would provide adequate statistical power to detect the difference between groups having screening rates of 25% vs 35%. With 10% oversampling to protect against data losses, 363 families per group were targeted over the course of the study.

## Intervention and Control Methods

In this study the benefits and services of the Early and Periodic Screening, Diagnosis and Treatment program were unchanged; only the informing method changed.

**Control.** All clients received the control method; clients in the control groups received *only* this method. Social services staff in the counties, who were unaware of clients' study groups, administered the control method at Medicaid intake and yearly reviews. They told parents that children on Medicaid could obtain services through the Early and Periodic Screening, Diagnosis and Treatment program; they provided parents with a pamphlet about the program printed by the state Medicaid office; and they asked whether parents "accepted" the program's services.

**Mailed pamphlet/letter.** The pamphlet, written at the fourth- to sixth-grade reading level, described the benefits of and need for the Early and Periodic Screening, Diagnosis and Treatment program. It provided directions and phone numbers for making appointments and obtaining transportation assistance. A personalized cover letter listed children due for screening and locations in the county where parents could obtain screenings.

**Phone call.** The phone call, made by a nurse, addressed the same issues as the pamphlet/letter. In addition, if the client desired, the nurse could schedule an appointment at the health department and begin making transportation arrangements. The nurse reinforced the com-

pleted phone call by mailing the pamphlet (without a letter) and, if an appointment was made, a reminder card. Nurses made up to five attempts to reach a client by phone.

**Home visit.** The content of the home visit mirrored that of the phone call, but a nurse presented the message in person, gave the pamphlet to the client, and encouraged the client to refer to it. For families with home phones and families without home phones for whom a non-home phone number was provided, the nurse tried to preschedule the home visit. If no one was reached after two calls, a visit was made unannounced. If no one was home when the nurse arrived, a pamphlet and a standard but personalized "sorry I missed you" note were left. An aide accompanied the nurse.

## Variables

For the major independent variables, seven data collection forms (one for each study group in each stratum) were developed to guide the interventions and to collect data needed to both describe the intervention process and link data to Medicaid claims to document subsequent health screenings. A panel of experts verified the content validity of the forms.

Four public health nurses completed 72 hours of training to conduct interventions and collect data. Reliability tests to assess the percentage of agreement between their responses and those of a senior investigator (M. S.-H.), as well as between pairs of nurses (interrater reliability), were 95% or higher. Three of the nurses were White, and one was a Native American who usually was perceived as White.

Regarding the dependent variable, success was defined as a Medicaid health screening for at least one targeted child in a family within 4 months after intervention or, for control groups, 4 months after the midpoint of the relevant sample's 3-month intervention period. A 4-month period was deemed realistic for clients to work through clinic waiting lists. Usage data were extracted from providers' Medicaid claims 16 months after intervention, allowing 4 months for children to obtain screenings and 12 months for claims to be filed and processed.

As for covariables, predisposing and enabling factors that might influence parents to obtain health screenings for their children were identified in accordance with the PRECEDE model. The

TABLE 1—Study Families' Predisposing and Enabling Factors in Obtaining a Child Health Screening, by Intervention Status

Family Characteristics	% With-Phone Families					% No-Phone Families				
	Intervention Attempted					Intervention Attempted				
	Control (n = 298)	Not Reached (n = 215)	Reached (n = 670)	Subtotal (n = 885)	With Phone Total (n = 1183)	Control (n = 300)	Not Reached (n = 131)	Reached (n = 439)	Subtotal (n = 570)	No Phone Total (n = 870)
<b>Predisposing factors</b>										
Minority	64	61	64	63	63	66	66	64	64	65
≥ 2 children <sup>a</sup>	48	52	45	47	47	57	52	58	56	57
≥ 2 children under 6 y <sup>b</sup>	18	19	14	15	16	20	24	24	24	22
Youngest child under 3 y <sup>c</sup>	25	31	23	25	25	34	43	33	36	35
≥ 1 male child <sup>d</sup>	62	67	58	60	61	69	61	68	66	67
Parental age <sup>e</sup>										
< 21 y	4	5	3	3	3	4	9	5	6	5
≥ 21 y	56	61	55	56	56	61	60	65	64	63
Unknown	40	34	42	40	40	35	31	30	30	32
Aid to Families with Dependent Children recipient	75	71	71	71	72	68	66	72	70	69
"Accepted" Medicaid screening services at intake interview <sup>f</sup>	76	80	81	81	80	85	85	84	84	84
<b>Enabling factors</b>										
Used Medicaid screening services in past 2 y <sup>g</sup>	23	23	21	22	22	22	24	25	25	24
Lost Medicaid eligibility <sup>h</sup>	20	24	14	16	17	17	24	17	19	18
No outpatient use other than screening <sup>i</sup>	29	24	23	23	25	23	28	25	26	25
Family member hospitalized <sup>j</sup>	7	11	7	8	7	7	10	10	10	9

<sup>a</sup>With-phone vs no-phone families:  $P < .001$ .

<sup>b</sup>With-phone vs no-phone families:  $P < .001$ .

<sup>c</sup>With-phone vs no-phone families:  $P < .001$ . With-phone families reached vs not reached:  $P = .023$ .

<sup>d</sup>With-phone vs no-phone families:  $P = .004$ . With-phone families reached vs not reached:  $P = .033$ .

<sup>e</sup>Age of mother unless only parent was father. Age was not recorded for parents who themselves were not on Medicaid. For families in which parental age was recorded, mean parental age for with-phone families =  $32.6 \pm \text{SD } 9.0$  years and for no-phone families =  $30.9 \pm \text{SD } 8.4$  years ( $P < .001$ ).

<sup>f</sup>With-phone vs no-phone families:  $P = .005$ .

<sup>g</sup>Use of the Early and Periodic Screening, Diagnosis and Treatment program by anyone in family.

<sup>h</sup>Lost eligibility at any point during 4-month postintervention period. With-phone families reached vs not reached:  $P = .001$ .

<sup>i</sup>At any point during 4-month postintervention period.

relevant variables were extracted from the Medicaid claims and eligibility files. These covariables are listed in Table 1.

### Analyses

The primary purpose of this study was to evaluate the effectiveness of the interventions as they would be implemented in real life, wherein not all intervention attempts would result in contact with the family. Therefore, the major analyses included all families for whom an informing method was attempted, whether or not the attempt resulted in client contact. All analyses

were done separately for the with-phone and no-phone strata, with the family as the unit of analysis.

The primary analyses assessed whether the informing methods differed significantly in terms of success in producing health screenings (the dependent variable, as defined above). The odds ratio of success for each intervention relative to the control method was computed with a 95% confidence interval, and chi-square tests were used to assess overall significance.

Secondary analyses also were conducted to examine the impact of the

selected covariables on the findings. The distributions of and correlations among the covariables were examined, the impact of each variable on the dependent variable was bivariate assessed, and stepwise logistic regression analyses were conducted. The regression analyses included the informing methods and then selected significant covariables from the previously identified predisposing and enabling variables. These analyses produced adjusted odds ratios with 95% confidence intervals for the success of the informing methods, controlling for the effects of the covariables.

TABLE 2—The Effectiveness of Methods to Inform Families about Medicaid Child Health Screening Services

Informing Method	With-Phone Families (n = 1183) <sup>a</sup>				No-Phone Families (n = 870) <sup>b</sup>			
	Total No.	% with Medicaid Health Screening	Odds Ratio (95% Confidence Interval)		Total No.	% with Medicaid Health Screening	Odds Ratio (95% Confidence Interval)	
			Unadjusted	Adjusted <sup>c</sup>			Unadjusted	Adjusted <sup>c</sup>
Control	298	4.7	...	...	300	5.7	...	...
Pamphlet/Letter	294	6.5	1.40 (0.69, 2.85)	1.49 (0.72, 3.07)	295	8.8	1.61 (0.85, 3.03)	1.72 (0.89, 3.32)
Phone call	284	12.3	2.85 (1.50, 5.42)	3.00 (1.55, 5.81)	...	...	...	...
Home visit	307	16.3	3.95 (2.13, 7.31)	4.17 (2.21, 7.87)	275	9.1	1.67 (0.88, 3.16)	1.83 (0.94, 3.56)

<sup>a</sup>Comparison of informing methods:  $P < .001$ . Among with-phone families actually reached for informing, postintervention screening rates were as follows: control, 5% of 298 families; pamphlet/letter, 6% of 291 families; phone call, 18% of 163 families; and home visit, 20% of 216 families ( $P < .001$ ).

<sup>b</sup>Comparison of informing methods:  $P = .229$ . Among no-phone families actually reached for informing, postintervention screenings rates were as follows: control, 6% of 300 families; pamphlet/letter, 9% of 286 families; and home visit, 12% of 153 families ( $P = .071$ ).

<sup>c</sup>Adjusted odds ratios and confidence intervals are from logistic regression models that included variables identifying the informing methods and allowed stepwise selection of the covariables. Predisposing covariables were study county, calendar quarter in which family was targeted, ethnicity, number of children, number of children under age 6 years, age of youngest child, presence of male child, parental age, social services aid category (Aid to Families with Dependent Children vs other), and acceptance of Early and Periodic Screening, Diagnosis and Treatment program services at Medicaid interview. Enabling covariables were prior use of program services, interruption of Medicaid eligibility, use of illness-related outpatient services, and hospitalization of family member during study period.

Incremental cost-effectiveness ratios for the interventions (i.e., the dollar costs per additional family obtaining a Medicaid health screening, above the number of families obtaining screening as a result of the control method) were also calculated. Dollar values were attributed to the resources used in the interventions (e.g., materials, phone charges, travel, labor, etc.) with 1993 midpoint hourly salaries, including fringe benefits for labor costs. The cost-effectiveness ratios were calculated by dividing the cost of an intervention by the difference in effectiveness (success rate) between the intervention and control methods.

## Results

### Sample Characteristics

Of 2541 randomly selected families, 488 were found not to meet study inclusion criteria. Analyses were performed on the remaining 2053 families, with 3377 children due or overdue for a Medicaid health screening (Table 1). Most families received cash assistance through the Aid to Families with Dependent Children program. Most had one or two children; the mean number of children was 1.8 ( $\pm$ SD 1.1); the median number was 2. The mean age of the targeted children was 8.7 ( $\pm$ 5.1) years; the median age was 8.1. Two thirds of the families were of minority ethnicity (predominantly African American). Table 1 shows similarities and differences among study groups in each stratum.

### Process Evaluation

Pamphlets/letters, assumed to have reached a family if not returned undelivered, appeared to reach 99% of with-phone families and 97% of no-phone families. Phone calls reached 57% of with-phone families. Home visits reached 70% of with-phone families and 56% of no-phone families. There were no refusals of phone or home visit interventions among families reached. The total amount of personnel time required for outreach-related administrative tasks, travel, and intervention implementation varied markedly. A pamphlet/letter took about 10 minutes; a phone call, about 30 minutes; and a home visit, about 60 minutes.

Clients reached by phone or home visit ( $n = 532$ ) were asked whether they had heard of the Early and Periodic Screening, Diagnosis and Treatment program; about 25% in each group said they had. After intervention, approximately 90% of each group (a total of 476 families) said they wanted to use the program, and 212 (45%) of them asked the nurse to schedule an appointment at the health department.

### Analyses of Effectiveness

The primary analysis compared the effects of the interventions. Among families with phones, the differences in effectiveness among informing methods were significant, with the control method producing the fewest screenings and the pamphlet/letter, phone call, and home visit producing progressively more screen-

ings; however, the pamphlet/letter did not produce significantly more screenings than the control method. Among families without phones, the control method produced the fewest screenings, but differences among the intervention and control methods were not significant; the pamphlet/letter and home visit produced nearly identical numbers of screenings. Adjustment for covariables did not result in changes in the relative effectiveness of the interventions.

The *absolute* effectiveness of the interventions in terms of producing screenings was low (Table 2). The low effectiveness was attributable partly to the many families who were targeted but not reached by an intervention; they obtained screenings at the same rate as families in the control groups. However, subanalysis of families reached did not show appreciably higher rates for any intervention.

### Analyses of Covariables

Secondary analyses using logistic regression showed that several covariables were associated with a significantly greater likelihood of obtaining Medicaid health screenings in the 4-month postintervention period (Table 3). For families with phones, four significant covariables were identified: minority ethnicity; children under age 6; uninterrupted Medicaid eligibility; and nonresidence in County A, which is one of the poorest and most underserved counties in North Carolina and the one with the lowest countywide

**TABLE 3—Odds Ratios for Covariables Influencing Postintervention Health Screening among Families with and without Phones**

Variable	With-Phone Families (n = 1183)		No-Phone Families (n = 870)	
	Odds Ratio	95% CI <sup>a</sup>	Odds Ratio	95% CI <sup>a</sup>
Minority	1.72	1.10, 2.69	NA	
Child under age 6 <sup>b</sup>	1.68	1.37, 2.06	1.62	1.27, 2.08
Eligible for Medicaid for entire 4-month study period	3.02	1.43, 6.39	6.38	1.93, 21.06
Residence in County A <sup>c</sup>	0.31	0.19, 0.50	0.17	0.08, 0.37
Aid to Families with Dependent Children recipient	NA		0.48	0.28, 0.84

Note. NA (not applicable) indicates that the variable was a candidate for the logistic regression but did not remain in the stepwise model at  $P < .05$ .

<sup>a</sup>Odds ratios and confidence intervals (CIs) are from logistic regression models that included variables identifying the informing methods, with stepwise selection of the covariables. Predisposing covariables were study county, calendar quarter in which family was targeted, ethnicity, number of children, number of children under age 6 years, age of youngest child, presence of male child, parental age, social services aid category (Aid to Families with Dependent Children vs other), and acceptance of Early and Periodic Screening, Diagnosis and Treatment program services at Medicaid interview. Enabling covariables were prior use of program services, interruption of Medicaid eligibility, use of illness-related outpatient services, and hospitalization of family member during study period.

<sup>b</sup>Continuous variable: odds ratio shows increase in screening that was associated with each child under age 6 years in family.

<sup>c</sup>This county, one of the poorest and most underserved in North Carolina, had the lowest Early and Periodic Screening, Diagnosis and Treatment program utilization rate in the state.

**TABLE 4—Average Cost and Cost-Effectiveness of Enhanced Informing Interventions to Promote Medicaid Health Screening**

Intervention	Average Cost per Intervention Conducted, \$	Incremental Cost-Effectiveness (Relative to Control Group), \$	
		With-Phone Families	No-Phone Families
Pamphlet/letter	2.62	161	91
Phone call	9.33	137	...
Home visit	31.68 <sup>a</sup>	306	1022

<sup>a</sup>Average of costs of home visit for with-phone families (\$32.79) and no-phone families (\$30.56).

Medicaid health screening rate in the state.

Three of these four covariables—children under age 6, uninterrupted Medicaid eligibility, and nonresidence in County A—were significant for families without phones in the same manner as they were for families with phones. A fourth variable was also significant for families without phones: families receiving cash benefits through the Aid to Families with Dependent Children program were significantly *less* likely than families not receiving these benefits to obtain screenings for their children.

Additional logistic regression analyses, not shown in the tables, were conducted separately for minority families

and for White families with and without phones. The analyses confirmed that the relative effectiveness of the interventions was the same for minority families, White families, and the samples overall. Additionally, among families with or without phones, minority or White, two covariables consistently were significantly associated with postintervention health screening: more children under age 6 resulted in greater odds of obtaining screenings, and residency in the county A resulted in *reduced* odds of obtaining screenings.

#### Cost-Effectiveness

The estimated cost of getting one additional family to obtain a Medicaid health screening was high (Table 4),

owing largely to the low effectiveness of the interventions. For with-phone families, a phone call was the most cost-effective intervention, with a cost of \$137 per added effect. For no-phone families, a pamphlet/letter was most cost-effective, at \$91 per added effect. Among no-phone families, the home visit's high cost (\$32 per attempted visit) and low effectiveness (9%) led to an estimated cost of \$1022 per added effect.

#### Discussion

The findings of this study apply to families on Medicaid in six rural, medically underserved counties in North Carolina. Nonetheless, the study has relevance for health officials and researchers concerned with promoting the use of the Early and Periodic Screening, Diagnosis and Treatment program, particularly since the informing methods that were tested are widely used.

The study verified that briefly informing parents about the program in the context of a Medicaid review (the control method) is unlikely to result in adequate use of the program. Although Medicaid clients receive information about free screenings annually, all the families in this study were selected because their children needed screening. During the study period, only 5% of those in the control groups obtained screenings. Moreover, among families personally contacted in the study, only 25% remembered hearing about the availability of free screenings prior to outreach. Clearly, improved informing is needed.

In this study, the interventions produced more screenings than the usual (control) method of informing. However, the increases were significant only for with-phone families who received either phone calls or home visits, and in absolute terms, these increases were minimal. At best, the most effective intervention, a home visit, produced screenings for only 16 with-phone families per 100 visited, compared with 5 per 100 for the control method. The patterns of poor effectiveness held true even with adjustment for important predisposing and enabling variables. The small impact, although statistically significant, may be consistent with findings of a similar study in California, which found higher overall rates but no significant differences when testing home visits, phone calls, and control methods for families with children under 8 years of age.<sup>14</sup>

In our study, home visits resulted in outreach expenditures of \$306 to \$1022 for each additional family that obtained screening (above the number screened in the relevant control group). The poor cost-effectiveness and the minimal effectiveness of home visits in both this study and the California study<sup>14</sup> suggest that, despite their documented utility for other purposes,<sup>15-17</sup> home visits may not be the most appropriate outreach method when the sole purpose of the outreach is to encourage parents to seek well-child screenings. The effectiveness and/or cost-effectiveness of home visits might be improved by the use of indigenous lay workers or paraprofessionals, workers matched to the ethnicity of the clients, multiple visits, or other strategies. Given the high personnel cost of home visits, however, such strategies might be more effective when informing about health services is added to a more comprehensive home visit planned for other purposes.

In certain circumstances, nurses also might do health screening in the home. In our study, home visits reached 70% of families with phones and 56% of families without phones. If all those reached agreed to in-home screening, home screening might be economically feasible. However, a home visit would have to reach the children, not just the parents as in this study, and a screening would add to the cost of a visit. Moreover, parents who currently use ambulatory care services for screening might request home screening for convenience, thereby adding to program costs. Thus, before home screening is adopted widely, a test of its cost-effectiveness is essential.

In this study, for families with phones, a phone call by a nurse produced the most screenings per dollar, but the cost per effect was high (\$137). Because costs are determined largely by personnel time, future studies might examine the cost-effectiveness of using non-nursing staff or computer-generated phone calls. However, in this population, 30% to 55% had no home phone. Thus, reliance on telephone outreach could omit significant numbers of Medicaid clients.

The pamphlet/letter also performed poorly in this study although, among no-phone families, it produced as many screenings as the home visit intervention. The message from this study is twofold: (1) pamphlets or letters may not fulfill the obligation to reach out to needy families; and (2) these methods need to be improved if they are to meet the needs of the target population. Tailoring the pam-

phlets/letters as one means of increasing their effectiveness should be evaluated.

Overall, our findings indicate that neither home visits, phone calls, nor pamphlets were sufficient for producing optimal screening rates in the poor rural population studied. Clearly, existing outreach methods should be improved, and new ones developed and tested.

The findings of this study also suggest that system-level changes may be needed to enable families to use Medicaid health services. For example, Medicaid eligibility was disrupted for nearly 20% of the families in this study, reducing the odds of their obtaining a screening. Residence in a county that has systemwide problems in health care delivery also reduced these odds. In addition, interviews with a small subsample from this study, reported elsewhere,<sup>18</sup> suggest that poverty-level life stresses make it difficult for many families to use "free" health screenings as currently offered. Even those parents who did obtain screenings reported encountering numerous barriers. Thus, while improvements in outreach clearly are needed, the goal of optimal usage of the Early and Periodic Screening, Diagnosis and Treatment program may not be realized without concurrent changes in the health care delivery system. □

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